

IN THE CLAIMS

The pending unamended claims are reproduced below:

1. (PREVIOUSLY PRESENTED) An internet protocol-based cellular telephone communications system, comprising:
  - a router;
  - a foreign agent (FA), coupled to the router;
  - a base transceiver station (BTS), coupled to the router, for communicating with a mobile telephone within a transmission area associated with the base transceiver station, wherein the router communicates with the base transceiver station using a cellular network interface; and
  - a home agent (HA), coupled to the router, wherein the home agent communicates with the router and the foreign agent for registering mobile telephones and transmitting messages using an internet-protocol network separate from the cellular network;wherein messages are transmitted using the internet protocol network between the home agent and the router, and messages are transmitted using the cellular network interface between the router and the base transceiver station.
2. (ORIGINAL) The cellular telephone communications system of claim 1, further comprising a second BTS, wherein a handoff between the BTS and the second BTS is performed through the internet protocol network.
3. (ORIGINAL) The cellular telephone communications system of claim 2, wherein a soft hand off (SHO) is performed between the BTS and the second BTS using asynchronous transfer mode (ATM) communications between the router and the BTS and the router and the second BTS.
4. (ORIGINAL) The cellular telephone system of claim 3, wherein the SHO is performed using ATM between the BTS and the second BTS and the mobile telephone.
5. (ORIGINAL) The cellular telephone communications system of claim 1, wherein the HA directs a message to the mobile telephone using an internet protocol address.

6. (PREVIOUSLY PRESENTED) An internet protocol-based cellular telephone communications system, comprising:

a handoff server (HS);

a base transceiver station (BTS), coupled to the handoff server, for communicating with a mobile telephone within a transmission area associated with the base transceiver station, wherein the handoff server communicates with the base transceiver station using a cellular network interface; and

a home agent (HA), coupled to the handoff server, wherein the home agent communicates with the handoff server for transmitting messages using an internet-protocol network separate from the cellular network;

wherein messages are transmitted using the internet protocol network between the home agent and the handoff server, and messages are transmitted using the cellular network interface between the handoff server and the base transceiver station.

7. (PREVIOUSLY PRESENTED) The cellular telephone communications system of claim 6, wherein the cellular network interface is asynchronous transfer mode (ATM).

8. (ORIGINAL) The cellular telephone communications system of claim 6, wherein the BTS communicates with the mobile telephone using asynchronous transfer mode (ATM).

9. (ORIGINAL) The cellular telephone communications system of claim 6, wherein a handoff of a mobile telephone between the BTS and a second BTS within the cellular telephone communications system is handled through the handoff server.

10. (ORIGINAL) The cellular telephone communications system of claim 9, wherein the mobile telephone communicates directly through the handoff server during the handoff between the BTS and the second BTS.

11. (ORIGINAL) The cellular telephone communications system of claim 6, wherein a handoff between the BTS and a second BTS is anchored through the first BTS until updates can be made at the HA.

12. (PREVIOUSLY PRESENTED) A method for communicating over an internet protocol-based communications network, comprising:

    sending a message from a home agent (HA) to a router over an internet protocol based network;

    forwarding the message from the router to a base transceiver station (BTS) using a cellular network interface, wherein the cellular network is not part of the internet protocol based network; and

    forwarding the message from the base transceiver station to a mobile telephone that is within a geographical communications zone of the base transceiver station.